

Notice of Allowability

Application No.

10/633,717

Examiner

Lana N. Le

Applicant(s)

HIRATA, MASARU

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/07/03.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

REASON FOR ALLOWANCE

1. Claims 1-9 are allowable over the cited prior art.
2. The following is an examiner's statement of reasons for allowance:

Regarding independent claim 1, the admitted prior art discloses an automatic frequency control system (fig. 5) comprising:

controlled oscillation means (TCXO 1);

frequency converting means (3) for generating a local oscillation frequency on the basis of a oscillation frequency (reference frequency) of said controlled oscillation means and converting a reception signal including a reception reference frequency (reference frequency) information into a base band signal (base band signal from block 3) on the basis of said local oscillation frequency (reference frequency);

automatic frequency control means (4) for generating a frequency error information (frequency error information from frequency error measuring portion 42) of the controlled oscillation means (TCXO 1) on the basis of the reception reference frequency information contained in the base band signal (base band signal from block 3) and controlling the controlled oscillation means (TCXO 1) by generating a control signal (TCXO control signal from AFC 2) depending upon said frequency error information (TCXO error signal from 21). Fukazawa (JP 09-083360) discloses a phase locked loop which impresses a stored signal to a VCO as input when the interruption signal is detected (para. 13). However, the claimed control signal done preceding AFC locked state is not a previously stored control signal and the stored signal of Fukazawa

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is not done before the AFC locked state. Moriya (EP 0817403) disclose a power source interruption wherein the power failure duration is calculated to cycle spread code phase generating means after restoring the stored spread code. However, Moriya does not disclose any AFC and does not disclose an AFC control signal done preceding an AFC locked state. Daughtry, Jr. et al (US 5,940,748) disclose a system having an AFC operation which holds the automatic frequency control means when the signal strength is detected to be low. However, the admitted prior art, Fukazawa, Daughtry Jr. et al and the cited prior art fail to disclose control means for performing control of an automatic frequency control operation by said automatic frequency control means using said control signal upon preceding automatic frequency control locked state responsive to interruption of communication.

Regarding independent claim 6, the admitted prior art discloses an operation control method (fig. 6) for an automatic frequency control system (fig. 5) including:

controlled oscillation means (1);

frequency converting means (3) for generating a local oscillation frequency on the basis of a oscillation frequency of said controlled oscillation means (1) and converting a reception signal including a reception reference frequency (reference frequency) information into a base band signal (base band signal from block 3) on the basis of said local oscillation frequency (reference frequency);

automatic frequency control means (4) for generating a frequency error information (frequency error information from frequency error measuring block 42) of said controlled oscillation means (1) on the basis of the reception reference frequency information

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contained in said base band signal (base band signal from block 3) and controlling the controlled oscillation means (TCXO 1) by generating a control signal (TCXO control signal from AFC 2) depending upon said frequency error information (TCXO error signal from 21). Fukazawa (JP 09-083360) discloses a method comprising the step of impressing a stored signal to a VCO as input when the interruption signal is detected (para. 13). However, the claimed control signal done preceding AFC locked state is not a previously stored control signal.

Daughtry, Jr. et al (US 5,940,748) disclose an AFC operation method which holds the automatic frequency control means when the signal strength is detected to be low. However, the admitted prior art, Fukazawa, Daughtry Jr. et al and the cited prior art fail to disclose the operation control method comprising the step of control step activated in response to interruption of communication of performing control of an automatic frequency control operation by said automatic frequency control means using said control signal upon preceding automatic frequency control locked state.

Regarding independent claim 8, the admitted prior art discloses a storage medium storing a program for making a computer to execute an operation control for an automatic frequency control system (fig. 5) including:

controlled oscillation means (TCXO 1);

frequency converting means (3) for generating a local oscillation frequency on the basis of a oscillation frequency (reference frequency) of said controlled oscillation means and converting a reception signal (carrier signal received from base station, reference frequency) including a reception reference frequency (reference frequency)

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information into a base band signal (base band signal from block 3) on the basis of said local oscillation frequency (reference frequency);

automatic frequency control means (4) for generating a frequency error information (frequency error information from frequency error measuring portion 42) of the controlled oscillation means (TCXO 1) on the basis of the reception reference frequency information contained in the base band signal (base band signal from block 3) and controlling the controlled oscillation means (TCXO 1) by generating a control signal (TCXO control signal from AFC 2) depending upon said frequency error information (TCXO error signal from 21). Fukazawa (JP 09-083360) discloses a phase locked loop having circuitry which impresses a stored signal to a VCO as input when the interruption signal is detected (para. 13). However, the claimed control signal done preceding AFC locked state is not a previously stored control signal. Daughtry, Jr. et al (US 5,940,748) disclose a system having an AFC operation which holds the automatic frequency control means when the signal strength is detected to be low.

However, the admitted prior art, Fukazawa, Daughtry Jr. et al and the cited prior art fail to disclose control means for performing control of an automatic frequency control operation by said automatic frequency control means using said control signal upon preceding automatic frequency control locked state responsive to interruption of communication.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Northcutt et al (US 6,278,867), Methods and Systems for Frequency

Generation for Wireless Devices

- Tsuda (US 5,974,098), Received Signal Detector for Digital Demodulator

- Dutta (US 5,450,447), Adaptive Variable Gain Phase and Frequency Locked

Loop for Rapid Carrier Acquisition

- Mishami (US 5,179,729), Tuner Station Selecting Apparatus

- Cookson (US 3,007,044), Frequency Search and Track System.

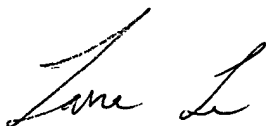
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lana N. Le whose telephone number is (571) 272-7891.

The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in cursive script, appearing to read "Lana Le".

Lana Le

October 27, 2005